GUIDANCE ON USING MULTIPLE CHOICE QUESTIONS IN ASSESSMENT

Decisions about the use of Multiple Choice Questions are always a matter of judgment as to whether their properties suit the assessment circumstances and purposes.

The two main types of question are 'True/False' and 'one best answer' (the latter usually simply called MCQ in the UK). The former type has many formats including single statements that have to be marked T or F and a multiple or cluster type with a stem and several possible responses, each of which has to be marked T/F. The MCQ type consists of a stem and options, usually five, of which, usually, one is the correct answer and the other distracters. Answers can be in words, numbers, diagrams, solutions etc., as appropriate to the discipline.

STRENGTHS	WEAKNESSES
Easily marked, e.g. optical scanning.	Very hard to set well.
Good for testing factual knowledge.	Less good/ not effective for higher order thinking skills, and reasoning cannot be seen.
Can test a large part of a factual syllabus.	Danger of guessing (single T/F type questions are particularly discouraged for this reason).
Can be run on-line, avoiding the need for paper altogether – but for summative purposes all the class needs to do at same time, unless you have a validated bank of 'equal' questions to draw on. The medium may have an impact on test time, level and format.	Female students have been shown to be less prone to taking assessment risks than male – so they may be less likely to guess and therefore be disadvantaged vis-a-vis male students.
Once questions are developed MCQs should save time and resources.	Danger of assessing that which is easy to assess, not that which is important to assess.
Can be used formatively, including for diagnostic testing, and summatively.	Can encourage a surface approach to learning.

The more important the assessment in which they are used then the more important having good psychometric properties becomes. For an important examination all test items should have been piloted and any that caused problems rejected. It is common to build large banks of questions that have been piloted and can be drawn on as needed, enabling a change of questions from one exam to another, for example.

Pointers about using MCQs:

- Make sure the content of the question is important and relevant (i.e. aligned to specific Vermont Grade Expectations).
- Use stems and options that are unambiguous and each contain only one idea.
- Be very careful that any T/F items are unequivocally either true or false.
- Avoid negative statements.
- Construct plausible distractors e.g. likely errors and using an appropriate part of speech so that the correct answer does not draw attention to itself.
- It can be useful to use distractors that reflect common student misconceptions around the content.
- Do not use 'all of the above' or 'none of the above' as possible answers.
- From question to question, distribute the correct answer among the lettered responses (e.g. "D" is not always the correct answer).
- When a single set of questions is used summatively, the examinations should be taken by the whole class at the same time.
- Consider asking students to indicate their level of confidence in each answer. This gives them very useful formative information.
- Consider subject matter, level of course and intended student outcomes in the decision about whether or not MCQs are a suitable form of assessment. (See Strengths and Weaknesses chart above.)
- Remind students to attempt to answer every question and to pace their work so that they reach the end of the test paper.
- Consider scaffolding several multiple choice items of different Depth of Knowledge (DOK) levels around a scenario or a set of data. This allows you to know at what level of cognitive e complexity a student is able to interact with the chosen content (GE).